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# **EWF Evaluation**

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CFEB APB/ DISA  
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# **Purpose**

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## **To Present an Enterprise WF Solution:**

- **COTS Evaluation Process**
- **Evaluation, Testing, & Feasibility Results**
- **EWF Within DISA**



# **Agenda**

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- 1. Purpose / Agenda**
- 2. Timeline**
- 3. COTS Evaluation Process**
- 4. Business Needs**
- 5. Enterprise Workflow Concept**
- 6. Requirements Criteria / Evaluation Results**
- 7. Product Comparison**
- 8. Evaluation / Test Scores**
- 9. Gartner on Workflow**
- 10. EWF Benefits for eBusiness**
- 11. Opportunities**
- 12. Recommendation**
- 13. Summary**



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# Timeline

## Leveraged Past DISA Effort:

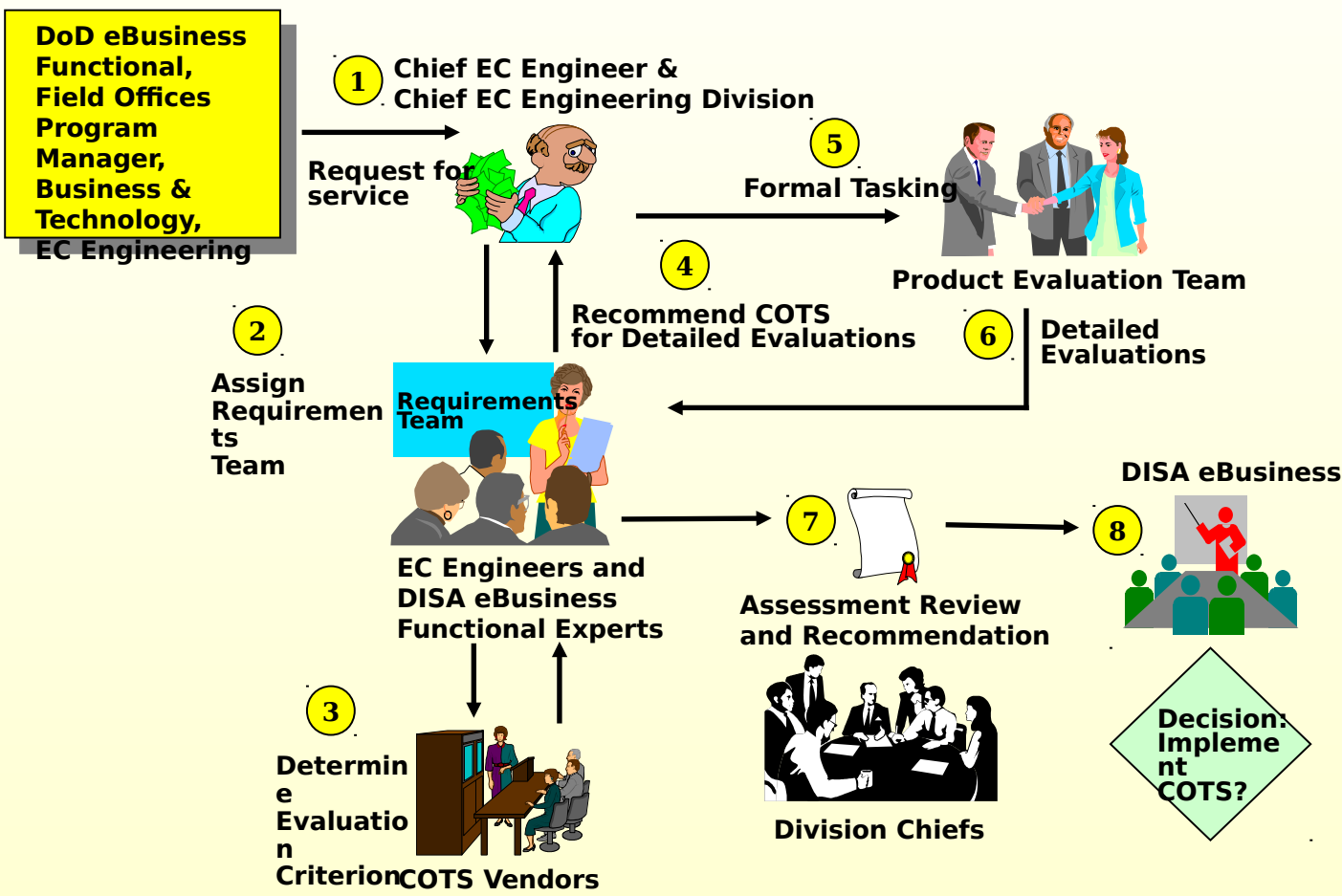
- FY 1999 - DISA MIS / DARPA JPO Shared Interest in Evaluating WF products**
- Mar 2000 - Requirement Criteria Compiled: DISA CIO / FGs / Market Research**
- Aug 2000 - Research**
- Oct 2000 - DISA MIS / Contracting Office Posted an RFI**
- Nov 2000 - WF Vendors - 100 Identified/ 40+ Responses Evaluated**
- Jun 2001 - 2 Finalists Tested Against the Requirements Based on 4 Models in the EDC**
- Oct 2001 -**
- Nov 2001 - Defense eBusiness Briefed on Test Results: EWF Feasibility within EMALL**
- Feb 2002 - Presentation to DISA CIO**
- Demonstration of using PTC's Windchill 5 for the EMALL**

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# COTS Evaluation Process



1. Request for Service of Chief EC Engineer and Chief, EC Engineering Division from DoD eBusiness elements.
2. Assign Requirements Team, Consisting of EC Engineers and DoD eBusiness Functional Experts
3. Determine Evaluation Criteria, inclusive of input from COTS Vendors and GOTS Developers
4. Requirements Team Recommends COTS/GOTS Product(s) for Detailed Evaluation
5. Formal Tasking of Product Evaluation Team
6. Detailed Evaluations Conducted (EDC Test Plan / Data, Test, Evaluate, Report), in Coordination with Requirements Team
7. Assessment Review and Recommendation to DoD eBusiness Division Chiefs and Director
8. Develop Acquisition Strategy, including Decision to Implement COTS/GOTS Product

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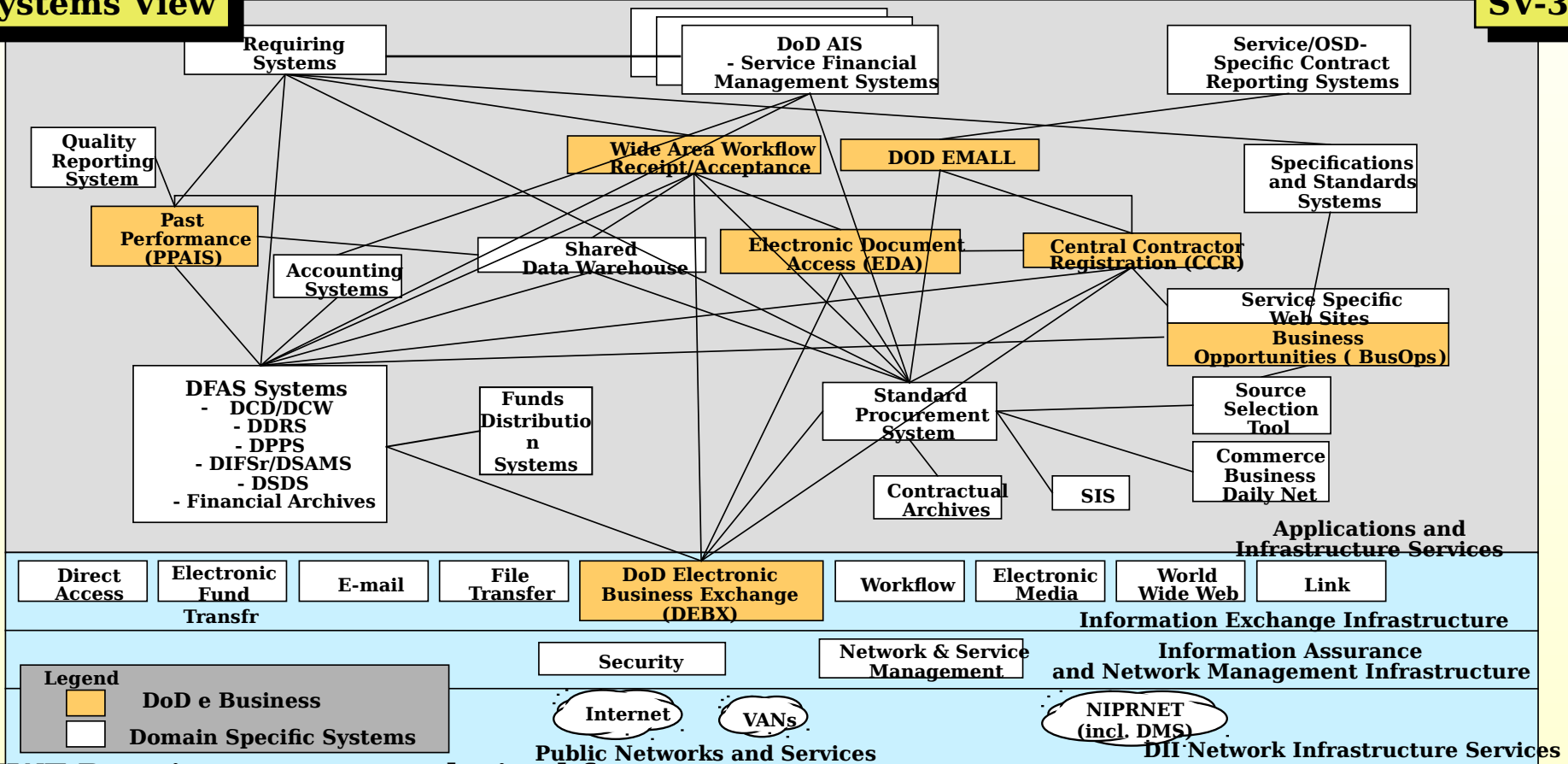


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# Enterprise Business Needs

Systems View

SV-3



EWI Requirements were derived from:

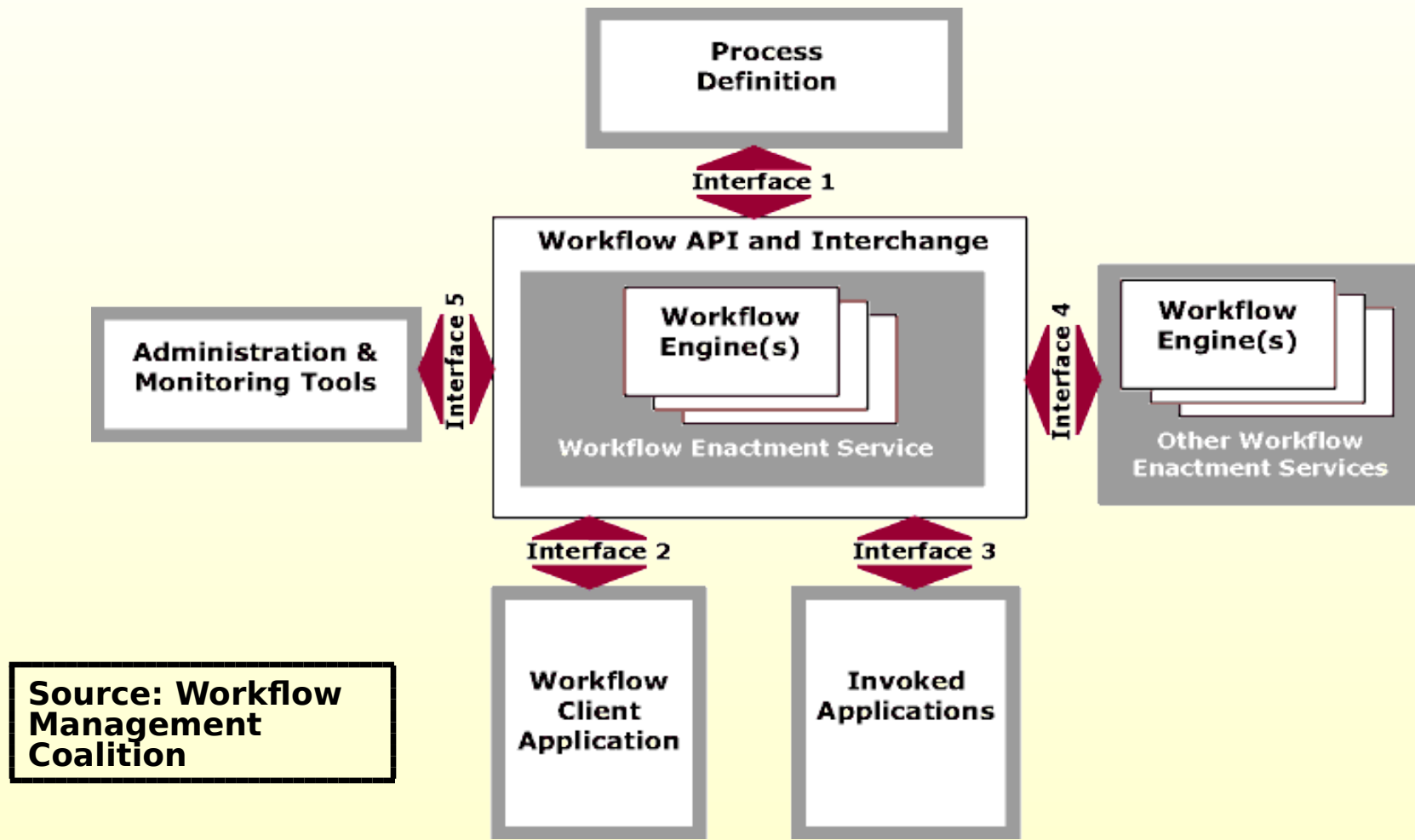
- EB/EC Architecture Ver 3.0: 33 Procurement Links show a need for a generic Workflow Mechanism for Information Exchange
- Interviews: DOD EB PMs, FGs (EMAIL, PC-WIPT, PPAIS, PDM, CCR, BUSOPPS, WAWF-RA, and EDA), and partners
- Market Research

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# EWF Model



**Source: Workflow Management Coalition**

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# Requirements Criteria

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1. **General** - Enterprise Scale Workflow (EWF); Infrastructure Independent
2. **Management** - Role-based; Centralized/ Distributed Mgmt: Locally Accessible
3. **Suspense Tracking** - DISA Requirement
4. **Coordination** - Multiple Organization
5. **Integration** - Multi-Tier, Browser-based, Distributed Architecture
6. **Standards** - WFMC Compliant; Open Systems
7. **Security** - DOD PKI / EBI Compatible
8. **Product** - Multi-WF Interoperability; Multi-Media, Collaborative Tools
9. **Cost** - Per 100 User / Server

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# Product Evaluation Results

Vendor	Con-centus	Docu-mentum	Handy Soft	Iplanet	JCALs	Jetform	Open Text	Oracle	PTC	Perfect Score
Product Version	Meta Express / Work bridge	Iteam V 4.1	Biz Flow V 6.3	Forte Fusion V 2.0	JCALs Workflow Mgr	E-Process Frame	Live Link V8	Oracle Workflow V 2.5	Wind-Chill	
General	16		17		12	15	16	13	20	20
Management	8		8		4	4	10	7	12	13
Suspense Tacking	2		2		2	2	3	2	3	4
Coordination	19		20		19	18	19	13	25	26
Integration	13		14		15	11	18	12	25	26
Security	5		0		3	4	5	3	6	6
Product Support	4		4		4	4	4	4	4	4
Cost Provided	1		1		1	1	1	1	1	1
Total Score	68		66		60	59	76	55	96	100

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# **Evaluation Results, cont.**

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**100 Commercial EWF Products identified, reference:**

- **DISA RFI**
- **Gartner Group Surveys**
- **MITRE Trade Study**
- **Research**

**2 Finalists - Function Tested Against EWF**

**Requirements:**

- **Parametric Technology - Windchill 5.0**
- **Opentext - Livelink 8.1.5**

**Recommend:**

- **PTC WindChill 5.0 to support eBusiness Workflow Requirements**



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# Product Comparison

Feature	OTC/ Livelink 8.1.5	PTC/ Windchill 5.0
WFMC Compliance	NO	YES
WF Type	Document Centric	Process Centric
Architecture Independent	Yes	Yes
Platform Requirements	Browser, RDMS, Web & email Server	Browser, RDMS, Web & email Server
Records Management	Optional Module	Full Document Version Control
KM Library	YES	YES
Search Tools	text/ metadata/ intelligent relevance ranking/ Boolean	Concept/ Pattern/ Boolean
Online Collaboration	YES	WC 6.0
Calendar	NO (Available Ver 9.0)	Standards-Based
Modeling Tool	Proprietary	Rational Rose



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# Comparison, (Cont.)

<b>Feature</b>	<b>OTC/ Livelink 8.1.5</b>	<b>PTC/ Windchill 5.0</b>
<b>Business Model Debugger</b>	<b>NO</b>	<b>YES</b>
<b>Automated WF Process Trigger</b>	<b>Limited</b>	<b>YES, Robots</b>
<b>Centralized Administration</b>	<b>YES</b>	<b>YES</b>
<b>Security/Authentication through Browser: IIE 5.0+ and NS 4.75+</b>	<b>ID/ PW</b>	<b>ID/ PW</b>
<b>Role Based Users/ Groups</b>	<b>NO</b>	<b>YES</b>
<b>Error Handling</b>	<b>YES</b>	<b>YES</b>
<b>Additional Modules</b>	<b>18</b>	<b>20+</b>
<b>Ease of Use</b>	<b>YES</b>	<b>YES</b>



# Test Scores

Lifecycle	OTC/ LL8	PTC/ WC5	Perfe ct Score
<b>1. Evaluate COTS Products</b> - Scores applied to the Vendor responses	76	96	100
<b>2. Function Testing</b> - FT against the WF Requirements Criteria	74	80	94
<b>3. Product Integration</b> - Integration capability with the COTS products platform within DISA EDC		EMALL Approv al Process	



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# Gartner on Workflow

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Creating e-business processes without a vision for workflow is shortsighted and expensive.

Workflow addresses e-business needs, will streamline transactions and is the glue for process coordination and consistency.

David McCoy, 1999  
Gartner Group

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# Benefits for eBusiness

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## **Resource Optimization; BPI; Reduced Processing Time**

- **Process Vision:**
  - Formalize Procedures
  - Capture Process Maps and Business Rules Standards
- **Streamline Transactions:**
  - Improve Business Process
- **Process Coordination/ Consistency:**
  - Assign Tasks
  - Administer Business Process
  - Monitor Metrics
  - Report: Assign Tasks; Track Version/ Status/ Process Changes/ Alerts
  - Role Based Views



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# Opportunities

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## **For DOD**

- **Apply to E2E Procurement**
- **Improve Business Process - EMALL AAP**
- **Integrate Enterprise Legacy Applications**

## **For DISA**

- **Manage Contracts - MIPR**
- **Coordinate Business Process - Form 9**
- **Support/ Enhance Suspense Tracking**
- **Customize Other Process Automation Using Templates**

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# **Recommendation**

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## **Present EWF Brief to:**

- **DISA CIO**
- **E2E Procurement**

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# Summary

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## **100 + WF Products Evaluated**

- **COTS Evaluation Process**
- **Requirements Tested**
- **EWF within DISA**

## **WC5 Clear Winner:**

- **Technically Superior**
- **WFMC Standards Compliant**
- **Open Systems Design**
- **Supports Critical EB Requirements**



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# Questions



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# WC5 Benefits / Features

1. Graphic Business Process Modeling
2. Functions
  - Workflow
  - Records Management
  - Online Collaborative Workspace
  - Web Services
  - Additional Modules
3. Repository
  - Knowledge Library
4. Administration / Security
  - Authentication / Validation
  - WF Process Administration
5. Interface / Integration
  - User/ System Interface
  - Resource Administration – Reusable Templates



# Definition

## **Enterprise Workflow (EWF):**

The enablement of partial or full automation of a business process during which documents, information or tasks are passed from one participant to another for action, according to a set of procedural rules.

## **Participants**

- Roles/ Responsibilities
- Local/ Remote/ (Intra/ Inter-agency; Industry/ Government)

## **Work is organized within the Enterprise Workspace**

- Tasks
- Projects
- Collaboration/ Discussion
- Resource Sharing



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# **WF Standards Groups**

- **WFMC - Workflow Management Coalition**
- **International standards-setting organization of WF vendors, users, analysts and university/research groups**
- **<http://www.wfmc.org/>**
- **WARIA -Workflow And Reengineering International Association**
- **Charter - identify and clarify issues common to users of WF, EC and BPR <http://www.waria.com/>**



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# **WF Standards Framework**

- **WFMC: Developed framework for establishment of WF standards:**
- **Includes 5 categories of communication standards and interoperability that allow multiple WF products to coexist and interoperate within a user's environment.**
- **<http://www.wfmc.org/standards/docs/tc003v11.pdf>**



# Workflow Capabilities

**Market Classification**

**Desktop  
(Routing and Tracking)**

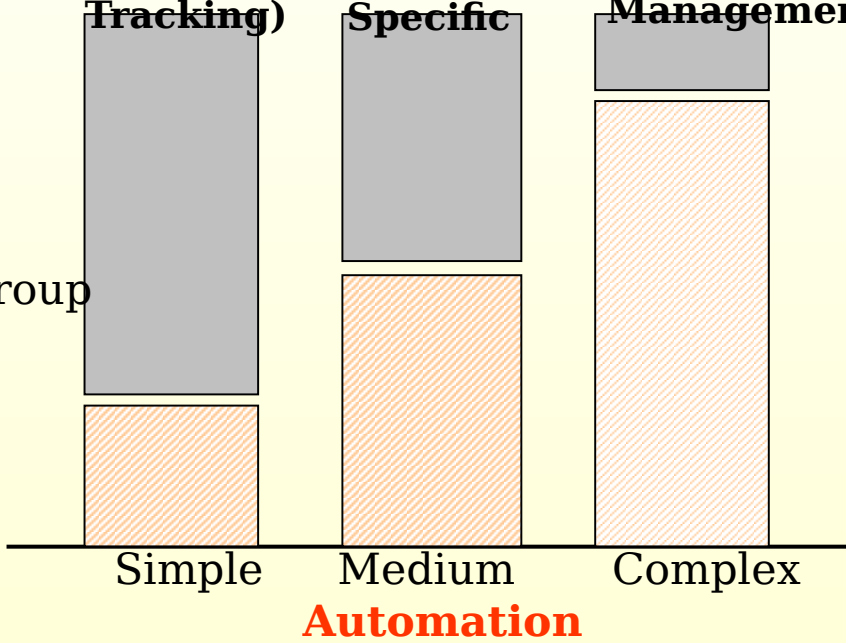
**Market or  
Applicati  
on-Specific**

**Business Utility  
(Work Management)**

**Business Rules**

**Human Processing**  
**Machine Processing**

Source: Gartner Group



The various workflow approaches extend from the simple workflow that involves little or no automation in the transfer of a product/service, to the complex workflow that involves high or total automation in the transfer.



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# EWF Evaluation Criteria

1 General	
1.1	Enterprise Scale EWF Capability
1.2	Workflow Server Management
1.3	Workflow Client Application
1.4	SW Independent of Vendors
1.5	Ad-Hoc Modeling
1.6	Complex Process Models
1.7	Process Definition Tools
1.8	Database Connection
1.9	Search and Sort Work Items
2 Management	
2.1	Tasking Management
2.2	Retention Rejection
2.3	Multiple Interactions within
2.4	Configuration Management
2.5	Ease of Use
2.6	Administrative Tools
2.7	Work Package Hold Tool
3 Suspense Tracking	
3.1	Auto Tracking
3.2	Re-active closed Suspense Items
3.3	Suspense Items Monitoring
3.4	Platforms
4 Coordination	
4.1	Manual routing
4.2	Automatic routing
4.3	Modify Business Rule/ Ad-hoc
4.4	Work Item Recall

4 Coordination Cont.	
4.5	Append Multiple File
4.6	Multi-Organization Routing
4.7	Multi-Entity
4.8	Simultaneous Editing and routing
4.9	Comment/Question Entry and Re-routing
4.10	List of Coordination Chain
4.11	Permission coordination control
4.12	Folder Creation and routing
5 Integration	
5.1	Web Browser Interoperability
5.2	Non proprietary Java Application Programming
5.3	Compliant with WfMC Standards
5.4	Integrate with Existing Infrastructure
5.5	Interoperate w/ COTS/GOTS Workflow Tools
5.6	Interoperate w/ COTS/GOTS Digital Signature
5.7	Import / Export files
5.8	Platforms support
6 Security	
6.1	Auto Tracking
6.2	Re-active closed Suspense Items
7 Product	
7.1	Product Document
7.2	Installed Base
7.3	Scalability
7.4	Reliability
8 Cost	
8.1	License



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# **EWF Benefits**

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- **Integrates with other DOD Enterprise Services:**
  - **PKI, GDS, Messaging**
- **Takes a Step Towards EAI for Resource Optimization**
- **Leverages All FG EWF for Better Product Cost**
- **BPI - Streamline FG/ Program Office Manual Processes**
- **Business Process Control / Metrics**
- **ROI - Return on Investment**
- **Leverage Existing IT / Policy Management Investment**
- **Reduce Document Processing Time**



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# **COTS Evaluation Steps**

**1. Request for Service** - Chief EC Engr/ Chief, EC Eng. Div from DoD eBusiness elements

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**2. Assign Requirements Team** - EC Engineers/ DoD eBusiness Functional Experts

**3. Determine Evaluation Criteria** - Inclusive of input from COTS Vendors/ GOTS Developers

**4. Requirements Team** - Recommends COTS/GOTS Product(s) for Detailed Evaluation

**5. Formal Tasking** - Product Evaluation Team

**6. Detailed Evaluations** - Test Plan/ Test/ Evaluate/ Report in Coord. with Requirements Team

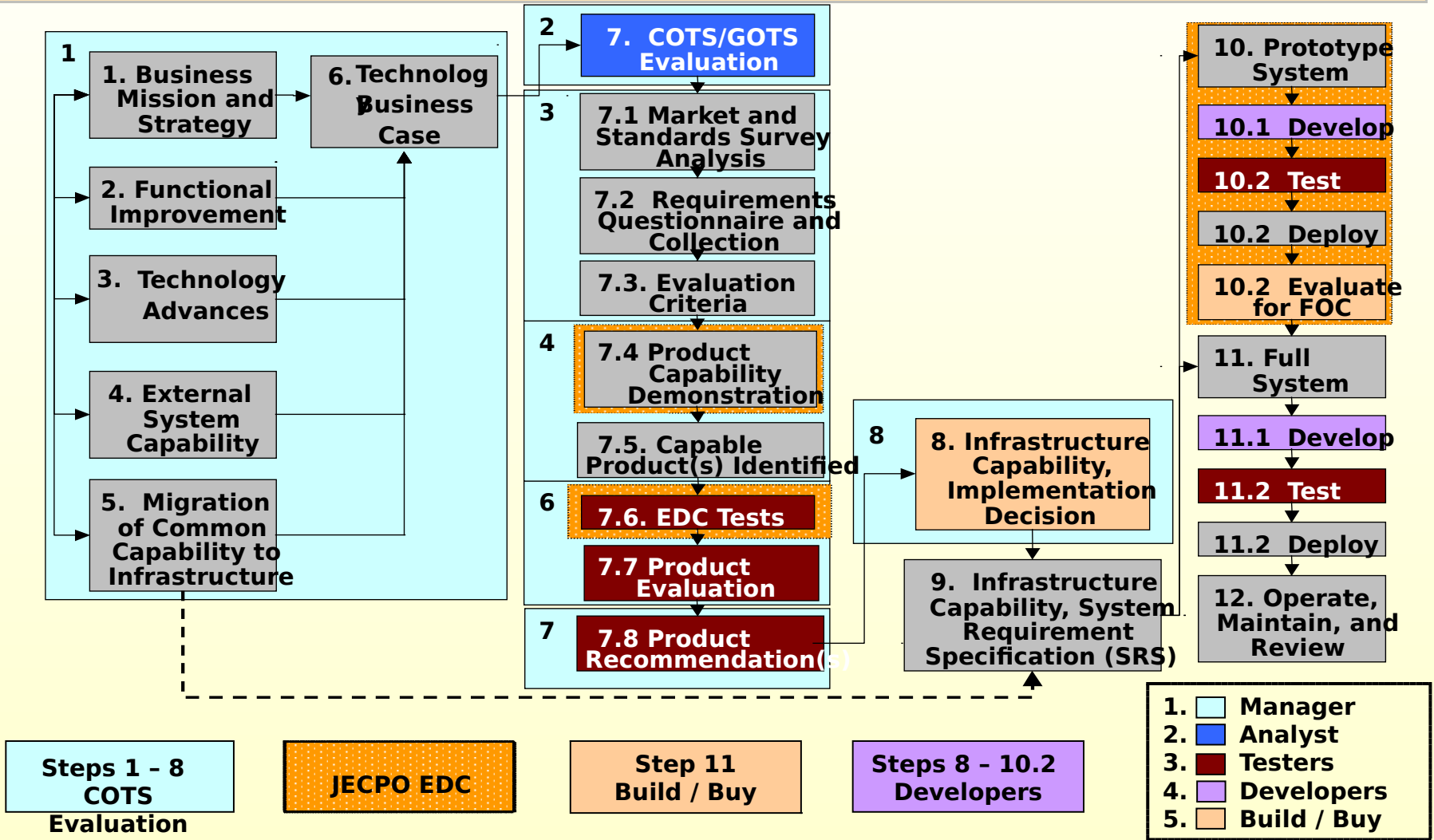
**7. Assessment Review/ Recommendation** - to DoD eBusiness Division Chiefs/ Director

**8. Develop Acquisition Strategy** - Includes Decision to Implement COTS/GOTS Product



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# IT Insertion Mapped to COTS





# Test Results Details

Vendor/ Product Version	OTC/ LL8	PTC/ WC5	Perfect Score
1. General	23	23	23
2. Management	13	13	13
3. Suspense Tacking	4	4	4
4. Coordination	23	25	25
5. Integration/ Standards	7	11	17
6. Security *	0	0	6 (Not Tested)
7. Product Support	4	4	6
8. Cost Provided **	\$125 K	\$58 K	Not Scored
<b>Total Score</b>	<b>74</b>	<b>80</b>	<b>94</b>

\* Not Tested  
\* \* Not Scored



- **EWF, 2 Types**

- Document Centric (Catalog Publishing)
- Process Centric (EMALL Approval Process )

- **EWF Goal**

- DOD EB Streamlined Business Processes
- Business System Modernization; <http://www.dla.mil/j-6/bsm>

- **Benefits**

- Integrated Enterprise Services on the Desktop
- Business Improvement: Low Process Cost / High Transaction Volume
- Enterprise Online Project Collaboration
- Enterprise Knowledge Management



# OTC/ Livelink 8.1.5

- **Central Location for Management of Tasks / Projects**
  - Knowledge Library - Explorer View; Personal, Project, Corporate Workspace
  - Enterprise Information Retrieval / Search Tool
  - Document / Content Management
- **Limited Modeling Tool - Proprietary**
  - Not WFMC Compliant
  - Limited Tools / Features,
  - Requires Customization for Automation/ Systems Integration
- **Virtual Team Collaboration**
  - Enterprise Group Scheduling Available in V. 9.0
- **EWF Environment - URL, accessed through a Browser**
  - Document Management / Version Control
  - MS Explorer View/ Powerful Search Engine
- **Product Recommendation**
  - Administrative / Internal
  - Collaboration
  - Document Management



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# **PTC/ Windchill 5.0**

## **Central Location for Management of Tasks / Projects**

- Knowledge Library - Explorer view
- Enterprise Information Retrieval/ Search Tool
- Collaborative Workspace
- Document/ Content / Process Management
- Supports Java, XML, ActiveX and PDF, Optional Activators for Notes, SAP, Others

## **Superior Modeling Tool - Rational Rose: Standards-based**

- WFMC Compliant - JAVA/ UML/ Open Systems
- Business Process Automation/ Integration
- Manufacturing/ Product Development
- EAI / Legacy Systems

## **Ideal For**

- Manufacturing/ Product Development - Enterprise Change Proposal; CM; Version Control
- Process Automation; Customization - VisualCafé
- EAI; IDE; Supply Chain Management

## **Product Recommendation**

- EMALL Process Improvement
- E2E Procurement
- DISA Enterprise Workflow



# Acronyms

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EAI - Enterprise Application  
Integration

ECP - Engineering Change Proposal

EMALL - Electronic Mall

DMU - Digital Mockup

PDM - Product Data Management

PLM - Product Lifecycle Management

MRO - Maintenance, Repair, and  
Operation

MXML - Multi-Channel Access XML

UML - Unified Modeling Language

VC - Version Control